

Micro-Channel Hydrogen Purifiers

PE9000MZ Series H2 Purifiers



Ultra-Pure hydrogen from any source

- Absolute Purity >99.9999999%
- PPT levels of O₂ + H₂O for LED's
- PPT levels of N₂ for PV and SiC

Protects from variation in supply purity

Lower H2 supply chain cost

- Lower Cost of Ownership
 - vs. Catalytic + Getter
 - vs. Cryogenic Purifier
 - vs. Other Pd Purifiers
- No Regeneration or Consumables

High Flow Capacities

- 5 NM³/hr to 320 NM³/hr

• Rugged High Reliability Design

• Compact Cabinet Design

- N₂ Purged Controls Cabinet with UPS for Power Failure Protection
- Separate vented process cabinet
- Continuous monitoring for H₂ and ventilation flow

• Remote monitoring and control

Power+Energy features a full line of micro-channel H2 purifiers to support any high purity hydrogen requirement from bench-top to fab-wide

<p>All P+E H2 Purifiers Feature</p> <p>Advanced Micro-Channel Membrane Technology</p> <p>Deliver 99.9999999% H2 from any hydrogen source</p> <p>Support the most demanding purity requirements</p> <p>Ideally suited for compound semiconductor and other advanced processes including LED, SiC GaN and Photovoltaic Fuel Cells and related H2 needs</p>	<p>PE9000MZ Series</p> <p>Fab Wide Capacity</p> <p>Single Cabinet</p> <p>N2 purged for Class 1 Div 2 operation</p>	<p>PE9000S Series</p> <p>Tool or Lab Wide</p> <p>Compact Cabinet</p> <p>Fully automated</p> <p>Centralized or Point of use</p>	<p>PE2100P Series</p> <p>Bench Top Supply</p> <p>Low Flow Systems</p> <p>Same Purity Output</p> <p>Ideal for Laboratory Applications</p>
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		PE9000MZ Series	PE9000S Series	PE2100P Series
Hydrogen	Flow Capacities ¹	5 - 320 NM3/hr	2 - 80 NM3/hr	5-30 slpm
	Maximum Inlet Pressure	250 psig (1.72 MPa) ²	250 psig (1.72 MPa) ²	200 psig (1.38 MPa)
	Inlet H2 Purity	99.95% typical ³	99.95% typical ³	99.95% typical ³
	Outlet H2 Temperature	5-10 C° above inlet	5-10 C° above inlet	5-10 C° above inlet
	Outlet H2 Purity	99.9999999%	99.9999999%	99.9999999%
	Total Impurities	< 1 ppb	< 1 ppb	< 1 ppb
N2 Purge	Cabinet	Yes	No	No
		N2 purged at 26 Pa	-	-
	Process	Startup + Shutdown 75-90 psig (0.5-.06 MPa) N2 flow~1% of H2 flow	Startup + Shutdown 75-90 psig (0.5-.06 MPa) N2 flow~1% of H2 flow	Startup + Shutdown 75-90 psig (0.5-.06 MPa) N2 flow~1% of H2 flow
Pneumatics	Air or N2	75-90 psig (0.5-.06 MPa)	75-90 psig (0.5-.06 MPa)	75-90 psig (0.5-.06 MPa)
Power		200-240 VAC - 50/60 Hz	200-240 VAC - 50/60 Hz	100-240 VAC 50/60 Hz
	20 NM3/hr	2.88 kW Peak (Startup) 0.7 kW at Max Flow	2.88 kW Peak (Startup) 0.7 kW at Max Flow	
	60 NM3/hr	4.4 kW Peak (Startup) 1.1 kW at Max Flow	4.4 kW Peak (Startup) 1.1 kW at Max Flow	
	180 NM3/hr	16 kW Peak (Startup) 4 kW at Max Flow		
Dimensions	Width	30" (762 mm)	21" (540 mm)	10" (254 mm)
	Depth	22" (559 mm)	18" (458 mm)	10" (254 mm)
	Height	80" (2032 mm)	24" (626 mm)	8" (203 mm)
Weight		330 lbs (150 kg)	110 lbs (50 kg)	15 lbs (7 kg)

¹ rated at 200 psig in / 0 psig out

² up to 350 psig (2.4 Mpa) optional

³ Lower inlet purities are available



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